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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/057,261 04/08/98 O'HAGAN

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EXAMINER

023623 WM01/0119
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ART UNIT

PAPER NUMBER

2645

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/057,261

Applicant(s)

O'Hagan

Examiner

Robert Sax

Group Art Unit
2748



☒ Responsive to communication(s) filed on Apr 8, 1998

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1035 C.D. 11, 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

☒ Claim(s) 1, 2, 4, 5, and 8-22 is/are pending in the application

Of the above, claim(s) 19 and 21 is/are withdrawn from consideration

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1, 2, 4, 5, 8-18, 20, and 22 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner?

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 2

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Election/Restriction

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I, Claims 1,2,4, 5, 8-18, 20 and 22, drawn to a speech recognition application between a host computer and a mobile terminal, classified in class 704, subclass 270.
 - II. Claim 19 and 21, drawn to a data collection network between two devices through a web page, classified in class 370, subclass 90.01.
2. The inventions I and II are related as combinations and subcombination. Inventions in this relationship are distinct if (1) the combination as claimed does not require does not require the particulars of the subcombination as claimed for patentability, and (2) the subcombination has utility by itself or in other combinations (MPEP 806.05(c)) In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because invention II used in an Internet environment which is not required for invention I.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

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4. During a telephone conversation with Himanshu Main on election of invention I or II, a provisional without traverse to prosecute invention I, of claims 1, 2, 4, 5, 8-18, 20 and 22,

Claim Rejections - 35 U.S.C. § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. The terms "limited set of or relatively small" in claims 1, 12 and 18-22 are relative terms which renders the claims indefinite. The terms "limited set of or relatively small" are not defined by the claims, the specification do not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

The terms "limited set" and "relatively small" do not suggest comparison to a predetermined standard but suggest reference to a reference set which is not limited. Therefor the terms cannot be used for the purpose of making or using a speech recognizer with a "limited set of words or relatively small dictionary of words" because the size of the dictionary and syntax file is indeterminate,

Claim 12, line 10 "substantially focused" and claim 10 line 5 "may be" are indefinite; claims 16 and 17 "the remote unit" lacks antecedent basis.

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Claim Rejections - 35 U.S.C. § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

8. Claims 1, 2, 4, 5, 8, 10, 11-18, 20 and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Baji et al.

Claim 1 of a host computer communicating files GUI display files, including a dictionary and syntax file, to a mobile terminal with microphone for speech input, Baji teaches a host computer attached by peripheral bus 13 to main body terminal devices with speech, display and communication interfaces which are portable as shown ^{in Fig 13} by main terminal device 87 shown with a mobile speech interface 88 for transmitting spoken commands for receiving display files transmitted from a host computer which processes and communicates display files supporting and advancing the Macintosh GUI, (Fig. 1, col. 2, lines 30-37; Fig. 5, col. 10, lines 54-62; col. 20, lines 13-15, lines 39-44; col. 21 col. 10-21); wherein as a baseline host computer supporting data input by keyboard or mouse, with the advanced man machine interface of a customized personal terminal, which communicates with the host computer, receiving GUI data sent from the host computer to the terminal, sending or receiving dictionary data for recognition of computer instructions, and syntax data for converting speech input into words of text communicated as

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I/O by bus or by a communication unit, with data input by speech and image recognition in addition to the conventional mouse and keyboard input of the Macintosh GUI (col 2, lines 7-11, 30-37, 47-66; col. 5, lines 9-17, 27-44 and 58-68); wherein the host computer optionally communicates with portable Macintosh computers and mobile headphone, microphone and transceiver for eyes and hands free speech input (col. 20, lines 13-51).

Claim 1 amended portion of wherein at least one dictionary file and syntax file are adapted to a limited set of voice input commands corresponding to at least one GUI display file, Baji teaches instruction recognition pertaining to personal computers such as Macintosh with conventional GUI supporting keyboard and mouse input for instruction (command) recognition supplemented by voice input for additional capability of reliably accepting voice input by using a neural net capable of performing flexible instruction judgement even on incorrect input where it is possible to confirm its contents or learn to make it usable thereafter (col. 14, lines 41-62) and which is applicable to very small portable computers operated hands free with headphone, mouthpiece, power pack and transmitter accessories as shown on Fig. 12 and 13 clearly capable of speech recognition of a limited or relatively small number of commands (col. 20, lines 13 - 51).

Claims 2, 4, 5 and 10 of host computer and memory for storing GUI display files including attributes such as file size, dictionary and syntax files communicated to the terminal, Baji teaches baseline Macintosh SE with GUI well known in the art and further teaches that most information sent to the terminal is obtained as GUI display files generated by the host central processing unit executing applications held in the main memory unit, with both host CPU and

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main memory attached to the host main bus and communicated to the peripheral bus by a dual port memory buffer; also Hard Disk and CD controllers are also attached to the CD bus or peripheral bus which is accessed by the terminal, therefor GUI display files, operating system command files, dictionary files, syntax files displayed by host computer are communicated to the attached terminal via the busses and buffer or for slower access by the two way communication line if the terminal is portable and detached from the host computer (col. 1, lines 28-31; col. 5, lines 9-31; col. 20, lines 13-51).

Claim 8 of mobile terminal which maps sequence of phonemes of phonemes into operator instructions, Baji teaches speech recognition by neural a network in the terminal which extracts a stream of phonemes from input speech, converts phonemes to text by referring to a speech recognition dictionary which result is input into a neural net which performs instruction recognition part either by the host CPU by communicating files or locally by the peripheral CPU for applications such as portable hands free note taking (col. 5, lines 35-48; col. 20, lines 13-51).

Claims 12-14 according to claim 12 and 18 of a remote mobile terminal including a processor and memory capable of displaying at least one GUI display file, speech recognition with dictionary and syntax of a relatively limited small set of commands for a GUI and **claim 20** of a remote client computer receiving a GUI file from a remote host for the purpose of using the GUI display file to input reference data for commands that may be input by speech using dictionary and syntax files for translating speech input into commands, Baji teaches a host computer and a personalized peripheral terminal with a peripheral CPU, memory and display

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adapted to the man machine interface of commands performed by the host computer and further extended the conventional keyboard mouse interface to include a speech recognition and instruction recognition interface, which is used for inputting spoken dictation or commands to the host computer exemplified by Macintosh SE or by the peripheral CPU and memory resident in the terminal; for displaying, and storing GUI display files on either the host or personal terminal as invoked by recognition of spoken commands using dictionary and syntax files interface from the host for mobility in receiving speech or displaying a GUI from the host. pertaining to the amended portion of claim 12, with respect to amended claims 12 and 18, Baji further teaches instruction recognition pertaining to personal computers such as Macintosh with conventional GUI supporting keyboard and mouse input for instruction (command) recognition supplemented by voice input for additional capability of reliably accepting voice input by using a neural net capable of performing flexible instruction judgement even on incorrect input where it is possible to confirm its contents or learn to make it usable thereafter (col. 14, lines 41-62) and which is applicable to very small portable computers operated hands free with headphone, mouthpiece, power pack and transmitter accessories as shown on Fig. 12 and 13 clearly capable of speech recognition of a limited or relatively small number of commands (column 1, lines 20-52; column 20, lines 13-51; and column 21, lines 11-21).

Claims 15-17 of storing the dictionary and/or syntax file on the mobile terminal, remote unit or remote host, Baji teaches speech recognition by dictionary and syntax files which convert trains of phonemes into words of a dictionary and words by syntax parsing into significant text

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used for reliable instruction processing with the scope focussed on interactive judging recognition of instructions so as to minimize the data processing required for reliable parsing of computer instructions from speech input of the user whereby a neural net performs error detection and correction for recognizing and correcting speech recognition errors to produce the interaction required for a valid computer instruction (column 6, lines 49-53; column 7, lines 11-16, lines 30-36).

Claim 22 of data collection network by a host computer in communication with mobile computing devices using speech I/O with graphical display context with a dictionary and syntax file referencing a relatively small limited number of data permutations and commands, Baji teaches a mobile terminal capable of both image and speech I/O capable of recognizing data or command input either by communicating with the host computer CPU and memory or locally by the mobile terminal with a peripheral CPU and memory. where individuals carrying the portable terminal with hands free headphones perform tasks using note taking for later lower bandwidth communication to the host computer (Fig. 1, Fig. 16, col. 13, line 62 - col. 14, line 2; col. 20, lines 13-51).

Baji teaches instruction recognition pertaining to personal computers such as Macintosh with conventional GUI supporting keyboard and mouse input for instruction (command) recognition supplemented by voice input for additional capability of reliably accepting voice input by using a neural net capable of performing flexible instruction judgement even on incorrect input where it is possible to confirm its contents or learn to make it usable thereafter (col. 14, lines 41-62) and which is applicable to very small portable computers operated hands free with

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headphone, mouthpiece, power pack and transmitter accessories as shown on Fig. 12 and 13 clearly capable of speech recognition of a limited or relatively small number of commands (col. 20, lines 13 - 51).

Claim Rejections - 35 U.S.C. § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 9, 11, 19 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baji et al in view of Barclay et al.

Claims 9 and 11 of at least one GUI display file of file size designated by the host computer communicated by packet by a platform independent architecture based on Java, **claim 19** of a host computer for general operations in sending a GUI file to a remote client for prompting input from a web page based on speech input with a dictionary and syntax for inputting a relatively small set of commands, and **claim 21** of a transmitted GUI file to a second device comprising an HTML file, of a dictionary and syntax file for speech recognition of a relatively limited set of commands and step 3 of dictionary and syntax files for recognition specific to a web page, Baji teaches communication unit 22 for communicating between a host computer and

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mobile terminal via a communication line (column 6 lines 1-3) and teaches dictionary and syntax files communicated from a computer to a second remote device which performs speech recognition on speech input but into the second device, or from disk storage or communicated from the remote host computer (column 5, lines 32-48). with respect to amended claims 19 and 21, Baji teaches instruction recognition pertaining to personal computers such as Macintosh with conventional GUI supporting keyboard and mouse input for instruction (command) recognition supplemented by voice input for additional capability of reliably accepting voice input by using a neural net capable of performing flexible instruction judgement even on incorrect input where it is possible to confirm its contents or learn to make it usable thereafter (col. 14, lines 41-62) and which is applicable to very small portable computers operated hands free with headphone, mouthpiece, power pack and transmitter accessories as shown on Fig. 12 and 13 clearly capable of speech recognition of a limited or relatively small number of commands (col. 20, lines 13 - 51).

Baji et al does not teach JAVA applets for packet communication to HTTP server applications on the Internet.

Barclay teaches real time speech recognition on the Internet by packet communication of speech from the dispatcher of the client processor; with a browser for processing a Web page in HTML comprising graphics, text, and embedded applets programmed by JAVA to access display files from servers of hyper-text or results from executable files; to a remote HTTP server whereby a message packet of quantized features of the clients utterance is forwarded to the dispatcher of

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the server and acknowledged by a SET RECEIVED SIGNAL returned to the client dispatcher to initiate communication from the client to the server at a rate commensurate with real time latency with packet sizes limited to memory space of the host server (column 6, line 26 - column 7 line 59; column 8, lines 36-64).

It would have been obvious to an artisan at the time of the invention to expand Baji's general concept of a personalized mobile speech recognizer which converts spoken input into digital data for delivery or communication to a host computer either by portable media or by real-time digital data communication. Although Baji did not teach packet communication for data communication as taught by Barclay, it would have been available and implementable at very low cost by using digital cellular communication to communicate speech from remote locations to the host computer and given such real-time communication capability taught by Barclay to further use platform independent JAVA code for communicating digital data input from a mobile speech recognition terminal to HTTP servers on the Internet thereby accessing data on the Internet by spoken input from remote mobile terminals. The use of packet communication and JAVA code is feasible for transmitting a relatively small number of different requests to servers in response to the commands of a user for client data.

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Response to Arguments

11. Applicant's arguments filed 5/12/2000 have been fully considered but they are not persuasive.

Baji et al does not use the term graphical user interface or GUI bu use the broader term "man machine interface" specifically refer to Macintosh SE as an exemplary host computer accessed by a conventional terminal supporting keyboard and mouse input and graphical display output. Baji et al enhance the conventional computer terminal with neural nets by image and speech I/O using speech recognition, image recognition and instruction recognition based on conversion of speech or image input to text. Baji's terminal can be detached from the site of the host computer and made portable or mobile by use of a communication unit. Baji suggests the Macintosh SE as a recommended conventional GUI supporting mouse or keyboard for inputting computer instructions into the host computer and receiving GUI display files for image output by a monitor. Baji teaches a number of different embodiments, at least some of which pertain to using speech recognition added to a conventional Macintosh GUI which pertains to a relatively small number of commands which would have been supported by a small dictionary and small syntax file.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Sax whose telephone number is (703) 306-3017.

If attempts to reach the examiner are unsuccessful, the examiners supervisor, Fan Tsang can be reached at (703) 305-4895.

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Any inquiry of a general nature relating to the status of this application should be directed to the group receptionist whose telephone number is (703) 305-3900.

The TC2700 Fax Center telephone numbers for attorneys to send in faxes are (703) 308-6306 and (703) 308-6296.

RLS

December 4,, 2000

FAN TSANG
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

